Amendments to the Drawings:

The attached Replacement sheet of drawings including Fig. 6 replaces the original sheet containing Fig. 6. No new matter has been added. Approval and entry are respectfully requested.

Attachment: one (1) Replacement sheet

REMARKS

Claims 11 to 19 are now pending and being considered. It is respectfully submitted that all of the presently pending claims are allowable, and reconsideration of the present application is respectfully requested.

Claim 17 was objected to for informalities. Accordingly, claim 17 has been amended herein without prejudice to obviate the present objection with respect to this claim. Withdrawal of this objection is therefore respectfully requested.

Claims 11 to 13, and 17 to 19 were rejected under 35 U.S.C. § 102(a) as anticipated by that which the Examiner characterizes as Applicant's Admitted Prior Art ("AAPA") of the instant application. Without addressing the Examiner's characterization of the AAPA as admitted prior art, it is respectfully submitted that the AAPA does not anticipate claims 11 to 13, and 17 to 19, as presented, for at least the following reasons.

To reject a claim under 35 U.S.C. § 102, the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (*See Scripps Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). As explained herein, it is respectfully submitted that the Office Action does not meet this standard, for example, as to all of the features of the claims. Still further, not only must each of the claim features be identically described, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed invention, namely the claimed subject matter of the claims, as discussed herein. (*See Akzo, N.V. v. U.S.I.T.C.*, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986)).

As further regards the anticipation rejections, to the extent that the Office Action may be relying on the inherency doctrine, it is respectfully submitted that to rely on inherency, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied art." (*See* M.P.E.P. § 2112; emphasis in original; and *see Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int'f. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Accordingly, it is respectfully submitted that any anticipation rejection premised on the inherency doctrine is not sustainable absent the foregoing conditions.

Claim 11, as presented, relates to a simulation system for computer-implemented simulation and verification of a control system under development, the control

system comprising a target hardware and application software running on the target hardware, the simulation system comprising *hardware implementing a generic model animation interface passing data from the target hardware to a modeling tool for animating a model of the control system and an in-model calibration interface passing data from the modeling tool to the application software, the model animation interface and the in-model calibration interface using measurement and calibration technologies in a host-target architecture*, to communicate with *a standard measurement and calibration interface on the target hardware forming a link between the application software on the target hardware and the host.* Support for the amendments to claim 11 may be found in the Substitute Specification, e.g. at page 20, line 31 to page 21, line 2; page 23, lines 13 to 15; and page 26, lines 4 to 24.

In contrast, the AAPA indicates that the "host and target are connected with each other via dedicated M & C communication interfaces," indicated by P1, P2, and P3 in Figure 6. (AAPA, p. 5, lines 30 to 31). The AAPA does not indicate a generic model animation interface (e.g., 72 of Figure 7) or an in-model calibration interface, which use measurement and calibration technologies in a host-target architecture, as provided for in the context of claim 11, as presented, and as shown in Figure 7 of the present application. (Substitute Specification, p. 20, line 24 to p. 21, line 2; and p. 24, lines 24 to 34). The Final Office Action asserts that the AAPA teaches these features at page 5, lines 13 to 34, and page 8, lines 4 to 11. (Final Office Action, p.3). However, the AAPA does not disclose a generic model animation interface or an in-model calibration interface. Instead, the AAPA at page 5, lines 24 and 31 merely indicates "dedicated experiment hardware" and "dedicated M & C communication interfaces." Similarly, the AAPA at page 8, line 8 merely refers to "dedicated rapid prototyping hardware." Therefore, the AAPA does not identically disclose, or even suggest, *a generic model animation interface* or *an in-model calibration interface … using measurement and calibration technologies in a host-target architecture*, as provided for in the context of claim 11, as presented.

In addition, the AAPA does not indicate a standard measurement and calibration interface (e.g., 76 of Figure 7) on the target hardware, forming a link between the application software on the target hardware and the host, as provided for in the context of claim 11, as presented, and as further shown in Figure 7 of the present application. (Substitute Specification, p. 23, lines 7 to 24; and p. 26, lines 4 to 24). The AAPA does not refer to an interface that interfaces between the host and target in a target hardware abstracted manner.

The Final Office Action at page 3 asserts that the AAPA teaches this feature at page 6, lines 27 to 31 and Figure 6. However, the AAPA at page 6, line 29 merely indicates that "the target hardware runs dedicated protocol handlers." In addition, the AAPA refers to "dedicated experiment hardware for rapid prototyping," "dedicated M & C communication interfaces," and hardware protocol specific data transmissions between a host and a target, where the host and target must each use protocol handlers dependent on the target hardware. (AAPA, p. 5, lines 24 and 31; and p. 8, lines 4 to 11).

The Final Office Action at page 3 asserts that "Applicant argues on unclaimed subject matter on merit." While the rejection may not be agreed with, to facilitate matters, claim 11 has been amended herein without prejudice to clarify the claimed subject matter. Therefore, the AAPA does not identically disclose, or even suggest, *a standard measurement and calibration interface on the target hardware forming a link between the application software on the target hardware and the host*, as provided for in the context of claim 11, as presented.

Further, claim 11 refers to a *simulation and verification of a control system under development, the control system comprising a target hardware* and application software running on the target hardware. Thus, the "target hardware" of claim 11 refers to the hardware of the control system under development. Claim 11 further provides for hardware implementing a generic model animation interface passing data from *the target hardware, i.e.*, the hardware of the control system under development, to a modeling tool, etc. The AAPA does not disclose, or even suggest, this feature. Instead, the AAPA refers exclusively to a "target processor" of a rapid prototyping hardware that is separate from a control system under development. For clarity, Figure 6 is amended herein to remove the words "target processor" for the apparent confusion it has caused in this respect, for Figure 6 and its accompanying text describe only a target simulation hardware/processor(s), rather than the target processor of Figure 7, which is of the control system under development.

In this regard, the Office Action essentially states that the subject matter of claim 11 may be inferred from pages 5 through 8 of the specification of the present application. However, the cited section does not disclose, or even suggest, the features of claim 11. As is disclosed on page 8, lines 13 to 14 of the specification, Figure 6 shows the conventional system. Figure 6 concerns solely *a rapid prototyping* hardware. Figure 6 shows modeling tools and measurement and calibration tools that are respectively connected

directly to the processor. However, additional expenditure, both with regard to the memory and the computing power (memory and run time), is provided for this processor so that it is not the actual target hardware, but rather rapid prototyping hardware. To wit, in such rapid prototyping hardware, an extra memory and a more powerful processor (or a second processor) are used in order to provide the data for the modeling tool and the measurement and calibration tool, respectively. The subject matter of the present claims clearly differs from this in that it involves the actual target hardware of the control system under development, in which only a small overhead exists in the form of a measurement and calibration interface. However, this is relatively small compared to the additional hardware expenditure for rapid prototyping hardware, which to wit also provides memory and computing power for the various handlers P1 through P3.

The sections cited by the Office Action, when taken in context, clearly refer to subject matter different than that of the claims. For example, page 5, lines 13 to 34, clearly describes a rapid prototyping system, that is, a system that holds additional resources for communication, as described for Figure 6. Page 5 clearly refers to rapid prototyping. Page 8, lines 4 to 11, describes properties of the modeling tools. However, as can be deduced from page 8, lines 16 to 19, these design approaches are possible only for use with experimental hardware or a complete simulation. In this instance, there is a clear difference between the target hardware of our claim and the rapid prototyping hardware that is described in the AAPA.

Furthermore, the Examiner also cites page 6, lines 27 to 31, which describes the measurement and calibration tools that are used in conjunction with rapid prototyping hardware. In this regard, page 7, lines 2 to 14 explains the purpose for which the described measurement and calibration tools are intended, which highlights the explained differences between the AAPA and the features of claim 11. The design according to Figure 6 requires additional resources that cannot be provided by the target hardware. This is described in detail at pages 11 to 12, for example, which describes the advantages of the invention. To wit, that passage describes how the target hardware does not require additional resources (page 11, line 15), no additional bandwidth is required for the connection (page 11, line 19), and no additional computing time is required (page 11, line 23). The procedure according to the present invention is thus advantageous in particular for ECUs.

For all of the foregoing reasons, the AAPA does not identically disclose, or even suggest, each feature of claim 11, as presented, so that the AAPA does not anticipate claim 11 or its dependent claims 12 and 13.

Claims 17 to 19, as presented, include subject matter analogous to that of claim 11, as presented, so that the AAPA does not anticipate claims 17 to 19 for at least essentially the same reasons as claim 11.

Withdrawal of this anticipation rejection is therefore respectfully requested.

Claims 14 to 16 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of the AAPA and the article "Design of Dynamically Reconfigurable Real-Time Software Using Port-Based Objects," IEEE Transactions on Software Engineering, Vol. 23, No. 12, December 1997 (the "Stewart" reference). It is respectfully submitted that the combination of the AAPA and the "Stewart" reference does not render unpatentable these claims for at least the following reasons.

Claims 14 to 16 ultimately depend from claim 11, as presented, and are therefore allowable over the combination of the AAPA and the "Stewart" reference since the "Stewart" reference does not cure, and is not asserted to cure, the critical deficiencies noted above with respect to the AAPA as applied to claim 11. Therefore, the combination of the AAPA and the "Stewart" reference does not disclose, or suggest, all of the features included in claim 11, as presented, so that the combination of the AAPA and the "Stewart" reference does not render unpatentable claims 14 to 16, which ultimately depend from claim 11.

Withdrawal of this obviousness rejection is therefore respectfully requested.

Accordingly, all of the presently pending claims 11 to 19 are allowable.

Conclusion

In view of the foregoing, it is respectfully submitted that all of the presently pending claims 11 to 19 are allowable. It is therefore respectfully requested that the objections and rejections be withdrawed. Prompt reconsideration and allowance of the present application are therefore respectfully requested.

Respectfully submitted,

Dated: July 1, 2008

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